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PILLSBURY WINTHROP SHAW PITTMAN, LLP
P.O. BOX 10500
MCLEAN, VA 22102

EXAMINER

EKONG, EMEM

ART UNIT PAPER NUMBER

2688

DATE MAILED: 10/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/753,077

Applicant(s)

BODLEY, MARTIN REED

Examiner

EMEM EKONG

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>01/08/04</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION***Drawings***

1. The drawings are objected to because they are not descriptively labeled. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to

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be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S Patent No. 5,381,486 to Christine E. Ludeke (Ludeke et al.) in view of U.S Publication No. 20030003969 A1 to Eric Tong (Tong et al.), and further in view of U.S Publication No. 20020098877 A1 to Abraham Glezerman (Glezerman), and further in view of U.S Patent No. 5,673,325 to Douglas Andrea (Andrea et al.).

Regarding claim 1, Ludeke et al. discloses a headset comprising: a main body with an attachment structure constructed to attach the headset in an operative position to the head of a user (see figures 1 and 6, and col. 2 lines 5-12);

a speaker (i.e. receiver) carried by the main body, the speaker being positionable adjacent a user's ear when the headset is attached in the operative position, the speaker being operable to output audible noise based on a speaker input signal transmitted to the speaker (col. 2 lines 11-14, col. 2 lines 12-15);

a microphone boom carried by the main body and having a distal end portion (see figures 1 and 6, col. 2 lines 15-17, and col. 3 lines 13-15);

a microphone carried on the distal end portion of the microphone boom, the microphone being operable to receive audible noise and transmit a microphone output signal based on the received audible noise (col. 1 lines 11-14, col. 2 lines 15-17, col. 3 lines 13-15);

the distal end portion being positioned further forwardly towards the mouth of the user when the headset is attached to the user's head in the operative position so as to be closer to the user's mouth in the extended position than in the retracted position (see figures 1 and 6, col. 2 lines 15-17, and col. 3 lines 13-15)

circuitry carried by the main body and connected to the speaker and microphone, the circuitry being operable to transmit and receive signals from a communications device, to transmit the speaker input signal to the speaker, and to receive the microphone output signal from the microphone to thereby establish communication between both the speaker and the microphone and the communications device (col. 3 lines 27-30);

However, Ludeke et al. fails to disclose the microphone boom being movable between a retracted position and an extended position, the distal end portion being positioned further forwardly towards the mouth of the user when the headset is attached to the user's head in the operative position so as to be closer to the user's mouth in the extended position than in the retracted position;

Tong et al. discloses a cellular telephone headset, and further discloses the microphone boom being movable between a retracted position and an extended position (see figures 1 and 3, and par. 0028).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the bendable microphone boom of Ludeke et al. with the movable between a retracted position and an extended position microphone boom of Tong et al. for the purpose of allowing a user to position the end of the boom adjacent his or mouth.

However, Tong et al. fails to disclose a headset having at least one sensor coupled to the circuitry for sensing a position of the microphone boom.

Glezerman discloses boom actuated communication headset a headset, and further discloses a headset having at least one sensor coupled to the circuitry for sensing a position of the microphone boom (par. 0029).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of Ludeke et al. and Tong et al. with Glezerman by adding at least one sensor coupled to the circuitry for the purpose of monitoring the position of the boom.

However, Glezerman fails to disclose the circuitry being further operable to apply a gain to the microphone output signal, the gain being varied based on the position of the microphone boom as sensed by the at least one sensor such that the gain is greater when the microphone boom is in the retracted position thereof than when the microphone boom is in the extended position thereof.

Andrea et al. discloses a headset wherein the circuitry being further operable to apply a gain to the microphone output signal, the gain being varied based on the position of the microphone boom as sensed by the at least one sensor such that the gain is greater when the microphone boom is in the retracted position thereof than when the microphone boom is in the extended position thereof (figure 4, and col. 7 lines 15-54).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the circuitry of the combination of Ludeke et al., Tong et al., and Glezerman with the circuitry of Andrea et al. for the purpose of varying the applied gain of the microphone output signal.

Regarding claim 2, the combination of Ludeke et al., Tong et al., Glezerman, and Andrea et al. disclose a headset according to claim 1, however fails to disclose wherein the extended position of the boom is approximately 1.5 inches forward of the retracted position of the boom.

Tong et al. discloses a headset wherein the extended position of the boom is approximately 1.5 inches forward of the retracted position of the boom (see figures 1 and 3, and pars. 0028).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the bendable microphone boom of the combination with the retracted and extended position microphone boom of Tong et al. for the purpose of allowing a user to position the end of the boom adjacent his or mouth.

Regarding claim 3, the combination of Ludeke et al., Tong et al., Glezerman, and Andrea et al. discloses a headset according to claim 2, however fails to disclose wherein the gain applied at the retracted position is approximately 6 dB greater than the gain applied at the extended position.

Andrea et al. discloses the headset wherein the gain applied at the retracted position is approximately 6 dB greater than the gain applied at the extended position (figure 4, and col. 7 lines 15-54).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination with further teachings of Andrea et al. for the purpose of varying the applied gain of the microphone output signal.

Regarding claim 4, the combination of Ludeke et al., Tong et al., Glezerman, and Andrea et al. discloses a headset according to claim 1, however fails to disclose wherein the attachment structure is an earhook having a general C-shape configured to fit over a user's ear to attach the headset in the operative position to the head of the user.

Tong et al. discloses a headset wherein the attachment structure is an earhook having a general C-shape configured to fit over a user's ear to attach the headset in the operative position to the head of the user (see figures 5B and 5C).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination with C-shape earhook

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configured of Tong et al. for the purpose that the earhook is shaped to fit around an ear of the user.

Regarding claim 5, the combination of Ludeke et al., Tong et al., Glezerman, and Andrea et al. discloses a headset according to claim 1, wherein the main body has a forwardly facing boom receiving opening (see figure 1 and 6). However, the combination fails to disclose wherein a proximal end portion of said microphone boom is slidably mounted within said boom receiving opening for movement between said retracted and extended positions.

Tong et al. discloses the headset wherein a proximal end portion of said microphone boom is slidably mounted within said boom receiving opening for movement between said retracted and extended positions (see figures 1 and 3)

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination and with further teachings of Tong et al. for the purpose of allowing a user to position the end of the boom adjacent his or mouth.

5. Claims 6-12, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ludeke et al. in view of Tong et al., and further in view of Glezerman, and further in view of Andrea et al. as applied to claim 1 above, and further in view of U.S Patent No. 6,470,197 B1 to Vijo Matias Tuoriniemi (Tuoriniemi).

Regarding claim 6-11, the combination of Ludeke et al., Tong et al., Glezerman, and Andrea et al. discloses a headset according to claim 1, however, the combination fails to disclose wherein said at least one sensor includes at least one switch coupled to the circuitry (claim 6);

wherein said at least one switch is a single switch, said single switch switching from a first state when the boom is in one of the extended and retracted positions to a second state when the boom is moved out of said one of the extended and retracted positions (claim 7);

the at least one switch is in the first state when the boom is in the retracted position and is in the second state when the boom is moved out of the retracted position (claim 8);

the first state is a closed state wherein a current flows through the switch to indicate that the boom is in the retracted position, and wherein the second state is an open state wherein the current is interrupted to indicate the boom is moved out of the retracted position (claim 9);

the at least one switch comprises a plurality of switches including at least a first switch and a second switch, the first switch switching from a first state when the boom is in the retracted position to a second state when the boom is moved out of the retracted position, and the second switch switching from a first state when the boom is in the extended position to a second state when the boom is moved out of the extended position (claim 10); and

the first state of each of the first and second switches is a closed state wherein a respective current flows through the respective switch to indicate that

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the boom is in the respective retracted or extended position, and wherein the second state of each of the first and second switches is an open state wherein the respective current is interrupted to indicate the boom is moved out of the respective extended or retracted position (claim 11).

Tuoriniemi discloses headset control system for operating a microcontroller based device, and further discloses a headset wherein said at least one sensor includes at least one switch coupled to the circuitry (reads on claim 6) (col. 1 lines 15-20, col. 2 lines 17-30);

wherein said at least one switch is a single switch, said single switch switching from a first state when the boom is in one of the extended and retracted positions to a second state when the boom is moved out of said one of the extended and retracted positions (reads on claim 7) (col. 1 lines 15-20);

the at least one switch is in the first state when the boom is in the retracted position and is in the second state when the boom is moved out of the retracted position (reads on claim 8) (col. 1 lines 15-20, col. 2 lines 17-64, and col. 4 line 64-col. 5 line 10);

the first state is a closed state wherein a current flows through the switch to indicate that the boom is in the retracted position, and wherein the second state is an open state wherein the current is interrupted to indicate the boom is moved out of the retracted position (reads on claim 9) (col. 1 lines 15-20, and col. 2 lines 17-64);

the at least one switch comprises a plurality of switches including at least a first switch and a second switch, the first switch switching from a first state

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when the boom is in the retracted position to a second state when the boom is moved out of the retracted position, and the second switch switching from a first state when the boom is in the extended position to a second state when the boom is moved out of the extended position (reads on claim 10) (col. 2 line 17-64, and col. 3 line 60-col. 5 line 10); and

the first state of each of the first and second switches is a closed state wherein a respective current flows through the respective switch to indicate that the boom is in the respective retracted or extended position, and wherein the second state of each of the first and second switches is an open state wherein the respective current is interrupted to indicate the boom is moved out of the respective extended or retracted position (reads on claim 11) (col. 3 line 60-col. 5 line 10, and col. 6 lines 28-57).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify, the headset with extended or retracted position boom, of the combination with the headset that contains a two-position boom switch; in upper position and in lower position of Tuoriniemi for the purpose of detecting the states of the switch.

Regarding claims 12, and 14, the combination of Ludeke et al., Tong et al., Glezerman, Andrea et al. and Tuoriniemi discloses a headset according to claim 9, however the combination fails to disclose wherein the boom carries a metallic element on the proximal end portion thereof and wherein the switch includes a pair of spaced apart terminals to which the current is applied, the

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metallic element contacting the two terminals to connect the two terminals together and establish the closed state when the boom is in the retracted position thereof, the metallic element being moved out of contact with the two terminals to disconnect the terminals and establish the open state when the boom is moved out of the retracted position thereof (claims 12 and 14).

Andrea et al. discloses wherein the boom carries a metallic element on the proximal end portion thereof and the switch includes a pair of spaced apart terminals to which the current is applied, the metallic element contacting the two terminals to connect the two terminals together and establish the closed state when the boom is in the retracted position thereof, the metallic element being moved out of contact with the two terminals to disconnect the terminals and establish the open state when the boom is moved out of the retracted position thereof (reads on claim 12 and 14), (col. 9 line 65-col. 11 line 8, and col. 11 lines 10-26).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination with the further teachings of Andrea et al. for the purpose of the metallic element contacting the two terminals to connect the two terminals together and establish the closed state when the boom is in the retracted position thereof, the metallic element being moved out of contact with the two terminals to disconnect the terminals and establish a open state when the boom is moved out of the retracted position thereof and establish the respective open state when the boom is moved out of the respective retracted or extended position thereof.

6. Claims 13, 15, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ludeke et al. in view of Tong et al., and further in view of Glezerman, and further in view of Andrea et al., and further in view of Tuoriniemi, and further in view of U.S. Patent No. 3,621,156 to Donald L. Kliewer (Kliewer).

The combination of Ludeke et al., Tong et al., Glezerman, Andrea et al. and Tuoriniemi discloses a headset according to claims 12, and 14, however, the combination fails to disclose wherein said terminals are provided on a detent structure and wherein the metallic element is a leaf spring that engages the detent structure to releasably retain the boom in the retracted position thereof (claim 13),

the terminals of the first switch are provided on a retracted position detent structure and wherein the metallic element is a leaf spring that engages the retracted position detent structure to releasably retain the boom in the retracted position thereof (claim 15);

the terminals of the second switch are provided on an extended position detent structure and wherein the leaf spring engages the extended position detent structure to releasably retain the boom in the extended position thereof (claim 16).

Kliewer discloses the headset wherein said terminals are provided on a detent structure and wherein the metallic element is a leaf spring that engages the detent structure to releasably retain the boom in the retracted position thereof (reads on claim 13) (see figures 1 and 2, and col. 1 line 68- col. 2 line 25, col. 3

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lines1-12),

the terminals of the first switch are provided on a retracted position detent structure and wherein the metallic element is a leaf spring that engages the retracted position detent structure to releasably retain the boom in the retracted position thereof (reads on claim 15) (see figures 1 and 2, and col. 3 lines1-12);

the terminals of the second switch are provided on an extended position detent structure and wherein the leaf spring engages the extended position detent structure to releasably retain the boom in the extended position thereof (reads on claim 16) (see figures 1 and 2, col. 1 line 68- col. 2 line 25, and col. 3 lines1-12).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination with the teachings of Kliever for the purpose of engaging the retracted or extended position detent structure to releasably retain the boom in the retracted or extended position.

Regarding claim 17, Ludeke et al. discloses a method for reducing background noise in a microphone output signal in a headset, the headset comprising a main body; a microphone boom carried by the main body and having a distal end portion; a microphone carried on the distal end portion of the microphone boom, the microphone being operable to receive audible noise and transmit a microphone output signal based on the received audible noise; the microphone boom being movable between a retracted position and an extended position, the distal end portion being positioned further forwardly towards the

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mouth of the user when the headset is attached to the user's head in the operative position so as to be closer to the user's mouth in the extended position than in the retracted position; the method comprising (see figures 1 and 6, col.1 line 1- col. 3 line 30).

However, Ludeke et al. fails to disclose sensing a position of the microphone boom.

Glezerman discloses sensing a position of the microphone boom (par. 0029).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of Ludeke et al. with Glezerman by adding atleast one sensor for the purpose of sensing the position of the boom.

However, Glezerman fails to disclose applying a gain to the microphone output signal, the gain being varied based on the sensed position of the microphone boom such that the gain is greater when the microphone boom is in the retracted position thereof than when the microphone boom is in the extended position thereof.

Andrea et al. discloses applying a gain to the microphone output signal, the gain being varied based on the sensed position of the microphone boom such that the gain is greater when the microphone boom is in the retracted position thereof than when the microphone boom is in the extended position thereof (figure 4, and col. 7 lines 15-54).

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Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of Ludeke et al., and Glezerman with the circuitry of Andrea et al. for the purpose of varying the applied gain of the microphone output signal.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of the art with respect to the headset:

U.S. Pat. No. 6594366 B1 to Joel Adams (Adams)

U.S. Pat. No. 6427018 B1 to Shawn P. Keliiliki (Keliiliki)

The following patents are cited to further show the state of the art with respect to the opening and closing state:

U.S. Pat. No. 6941155 B1 to Minoru Arimura et al.

U.S. Pat. No. 5557653 to Graeme S. Paterson et al.

U.S. Pat. No. 5504812 B1 to Lawrence A. Vangarde.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to EMEM EKONG whose telephone number is 571 272 8129. The examiner can normally be reached on 8-5 Mon-Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JOSEPH FEILD can be reached on 571 272 4090. The

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fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, consisting of a stylized 'E' followed by a horizontal line and a loop.

EOE
09/29/05